



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

| APPLICATION NO.                                                                                                                             | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---------------------------------------------------------------------------------------------------------------------------------------------|-------------|----------------------|---------------------|------------------|
| 10/799,221                                                                                                                                  | 03/12/2004  | Larry C. Wilkins     | 4090-156            | 7536             |
| 7590                                                                                                                                        | 11/17/2005  |                      | EXAMINER            |                  |
| Woodard, Emhardt, Moriarty, McNett & Henry LLP<br>Bank One Center/Tower<br>Suite 3700<br>111 Monument Circle<br>Indianapolis, IN 46204-5137 |             |                      | BELLAMY, TAMIKO D   |                  |
|                                                                                                                                             |             |                      | ART UNIT            | PAPER NUMBER     |
|                                                                                                                                             |             |                      | 2856                |                  |
| DATE MAILED: 11/17/2005                                                                                                                     |             |                      |                     |                  |

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                        |                     |  |
|------------------------------|------------------------|---------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> |  |
|                              | 10/799,221             | WILKINS, LARRY C.   |  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>     |  |
|                              | Tamiko D. Bellamy      | 2856                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 17 August 2005.
- 2a) This action is **FINAL**.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1,47-49 and 51-73 is/are pending in the application.
- 4a) Of the above claim(s) 1, and 65-73 is/are withdrawn from consideration.
- 5) Claim(s) 51-64 is/are allowed.
- 6) Claim(s) 47-49 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_.
- 4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_.  
 5) Notice of Informal Patent Application (PTO-152)  
 6) Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 47-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over MacDonald et al. (5,291,031).

Re claims 47 and 49, as depicted in fig. 1, MacDonald et al. discloses a holder (e.g., container 5) containing liquid, and a vertical pipe (e.g., tube 7) secured to the holder (e.g., container 5). MacDonald et al. discloses a target (e.g., reflector 8) in the pipe (e.g., tube 7) arranged to rise and fall with the rise and fall of the surface of the liquid in the holder (e.g., container 5). As depicted in fig. 1, MacDonald et al. discloses a laser (1)(Col. 3, lines 46-47) for transmitting signals longitudinally in the pipe to impinge on the target (e.g., reflector 8) in the pipe (e.g., tube 7) to be reflected by the target (e.g., reflector 8) back to the laser (e.g. laser diode 1). MacDonald et al. discloses a computer (e.g., electronics 11) coupled to the laser (e.g., laser diode 1) to compare time of transmission of the signals by the laser, with time of reception of the laser of the signals reflected back by the target (Col. 3., lines 64-68, Col. 4, lines 1-5, and determine the level of a surface of the liquid in the holder (e.g., container 5). As depicted in fig. 1, MacDonald et al. discloses a coupler for attaching the laser and computer to the holder (e.g., container 5). While MacDonald et al. does not specifically disclose a carrier coupled to the laser for

lifting the laser from the receiver and carrying the laser to another liquid holder to measure the level of the fluid, the court held In re Lindberg, 194 F.2d 732, 93 USPQ 23 (CCPA 1952), that providing portability to a prior art device is a design consideration within the skill of the art. Therefore, to employ MacDonald et al. on a carrier would have been obvious to one of ordinary skill in the art at the time of the invention since this reference explicitly teaches fluid level device including coupling a laser to a holder for transmitting signals to reflect from the surface of a target.

Re claim 48, as depicted in fig. 3, MacDonald et al. discloses a viewer (e.g., display 51) to display the liquid level measured. As depicted in fig. 1, MacDonald et al. discloses a coupler for attaching the laser and computer to the holder (e.g., container 5). While MacDonald et al. does not specifically disclose a carrier coupled to the laser for lifting the laser from the receiver and carrying the laser to another liquid holder to measure the level of the fluid, the court held In re Lindberg, 194 F.2d 732, 93 USPQ 23 (CCPA 1952), that providing portability to a prior art device is a design consideration within the skill of the art. Therefore, to employ MacDonald et al. on a carrier would have been obvious to one of ordinary skill in the art at the time of the invention since this reference explicitly teaches fluid level device including coupling a laser to a holder for transmitting signals to reflect from the surface of a target.

***Allowable Subject Matter***

2. Claims 51-64 are allowed.
3. The following is a statement of reasons for the indication of allowable subject matter:

Re claim 51, the independent claim includes “ a transmission tube and receiver are configured to mate by sliding the tube and the receiver together “ in combination with the remaining claim limitation is not taught and/or made obvious by the prior art. As depicted in fig. 1, MacDonald et al., considered closest to related art, teaches transmission tube (7) coupled to a receiver (15) via an optical guide (22). MacDonald et al. does not teach **a transmission tube and receiver are configured to mate by sliding the tube and the receiver together.**

Re claim 53, the independent claim includes “ a pipe cover pivotally mounted to the holder to pivot from a first, receiving orientation, to a second orientation enabling access to the receiver for receiving the transmission tube “ in combination with the remaining claim limitation is not taught and/or made obvious by the prior art. As depicted in fig. 1, MacDonald et al., considered closest to related art, teaches transmission tube (7) coupled to a receiver (15) via an optical guide (22). MacDonald et al. does not teach **a pipe cover pivotally mounted to the holder to pivot from a first, receiving orientation, to a second orientation enabling access to the receiver for receiving the transmission tube.**

Re claim 56, the independent claim includes “ a second tube coupled to the ultrasonic transducer, and the second tube being receivable by the receiver for passageway for ultrasonic signals produced by the transducer “ in combination with the remaining claim limitation is not taught and/or made obvious by the prior art. As depicted in fig. 1, MacDonald et al., considered closest to related art, teaches a single tube coupled to a receiver (23) via an optical guide (22). MacDonald et al. does not teach **a second**

**tube coupled to the ultrasonic transducer, and the second tube being receivable by the receiver for passageway for ultrasonic signals produced by the transducer.**

Re claim 61, the independent claim includes “ a reflector oriented to reflect laser signals received horizontally and transmit the signals vertically down through the pipe, and receive the signals reflected from the target up through the pipe and reflect the signals horizontally into the laser “ in combination with the remaining claim limitation is not taught and/or made obvious by the prior art. As depicted in fig. 1, MacDonald et al., considered closest to related art, teaches transmitting the laser signals from laser (1) vertically down a tube (7) and reflecting the signal from the surface of a reflector (8) coupled to a float (10) and reflecting the signal vertically up the tube and into the laser (1). MacDonald et al. does not teach a reflector oriented to **reflect laser signals received horizontally and transmit the signals vertically down through the pipe, and receive the signals reflected from the target up through the pipe and reflect the signals horizontally into the laser.**

***Response to Remarks***

4. The indicated allowability of claim 47 is withdrawn in further review view of MacDonald et al. (5,291,031).

*Conclusion*

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tamiko D. Bellamy whose telephone number is (571) 272-2190. The examiner can normally be reached on Monday - Friday 7:30 AM to 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tamiko Bellamy

*T.B.*

November 12, 2005

*Hezron S. Williams*  
HEZRON WILLIAMS  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800